

ABSTRACT OF THE DISCLOSURE

A combustion apparatus comprising a pre-combustor stage and a primary combustion stage, the pre-combustor stage having two co-axial cylinders, one for oxidant and one for fuel gas, in which the fuel gas is preheated and the primary combustion stage having rectangular co-axial passages through which fuel and oxidant are admitted into a refractory burner block. Both passages converge in the vertical plane and diverge in the horizontal plane. The passage through the refractory burner block also has a rectangular profile and diverges in the horizontal plane. The outlets to the primary combustion stage are recessed in the refractory burner block at a distance which may be varied.